

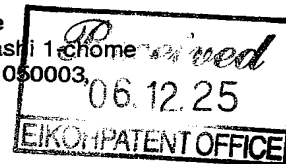
From the INTERNATIONAL BUREAU

PCT

NOTIFICATION OF TRANSMITTAL
OF COPIES OF TRANSLATION
OF THE INTERNATIONAL PRELIMINARY REPORT
ON PATENTABILITY
(CHAPTER I OR CHAPTER II
OF THE PATENT COOPERATION TREATY)
(PCT Rules 44bis.3(c) and 72.2)

To:

OGURI, Shohei
Eikoh Patent Office
7-13, Nishi-Shimbashi 1-chome
Minato-ku, Tokyo 1050003,
JAPON



Date of mailing (day/month/year) 07 December 2006 (07.12.2006)	
Applicant's or agent's file reference P05217700	IMPORTANT NOTIFICATION
International application No. PCT/JP2005/003490	International filing date (day/month/year) 02 March 2005 (02.03.2005)
Applicant SHINKO ELECTRIC INDUSTRIES CO., LTD. et al	

1. Transmittal of the translation to the applicant.



The International Bureau transmits herewith a copy of the English translation of the international preliminary report on patentability (Chapter I).



The International Bureau transmits herewith a copy of the English translation of the international preliminary report on patentability (Chapter II).

2. Transmittal of the copy of the translation to the designated or elected Offices.

The International Bureau notifies the applicant that copies of that translation have been transmitted to the following designated or elected Offices requiring such translation:

None

The following designated or elected Offices, having waived the requirement for such a transmittal at this time, will receive copies of that translation from the International Bureau only upon their request:

AE, AG, AL, AM, AP, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EA, EC, EE, EG, EP, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OA, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

3. Reminder regarding translation into (one of) the official language(s) of the elected Office(s).

The applicant is reminded that, where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary report on patentability (Chapter II).

It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned within the applicable time limit (Rule 74.1). See Volume II of the PCT Applicant's Guide for further details.

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland	Authorized officer Masashi Honda
Facsimile No. +41 22 338 82 70	Facsimile No. +41 22 338 82 70

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY (Chapter I of the Patent Cooperation Treaty)

(PCT Rule 44bis)

Applicant's or agent's file reference P05217700	FOR FURTHER ACTION	See item 4 below
International application No. PCT/JP2005/003490	International filing date (<i>day/month/year</i>) 02 March 2005 (02.03.2005)	Priority date (<i>day/month/year</i>) 03 March 2004 (03.03.2004)
International Patent Classification (8th edition unless older edition indicated) See relevant information in Form PCT/ISA/237		
Applicant SHINKO ELECTRIC INDUSTRIES CO., LTD.		

1.	This international preliminary report on patentability (Chapter I) is issued by the International Bureau on behalf of the International Searching Authority under Rule 44 bis.1(a).																								
2.	This REPORT consists of a total of 6 sheets, including this cover sheet. In the attached sheets, any reference to the written opinion of the International Searching Authority should be read as a reference to the international preliminary report on patentability (Chapter I) instead.																								
3.	<p>This report contains indications relating to the following items:</p> <table style="width: 100%;"> <tr> <td style="width: 10%; text-align: center;"><input checked="" type="checkbox"/></td> <td style="width: 20%;">Box No. I</td> <td style="width: 70%;">Basis of the report</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Box No. II</td> <td>Priority</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Box No. III</td> <td>Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</td> </tr> <tr> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td>Box No. IV</td> <td>Lack of unity of invention</td> </tr> <tr> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td>Box No. V</td> <td>Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Box No. VI</td> <td>Certain documents cited</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Box No. VII</td> <td>Certain defects in the international application</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Box No. VIII</td> <td>Certain observations on the international application</td> </tr> </table>	<input checked="" type="checkbox"/>	Box No. I	Basis of the report	<input type="checkbox"/>	Box No. II	Priority	<input type="checkbox"/>	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability	<input checked="" type="checkbox"/>	Box No. IV	Lack of unity of invention	<input checked="" type="checkbox"/>	Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement	<input type="checkbox"/>	Box No. VI	Certain documents cited	<input type="checkbox"/>	Box No. VII	Certain defects in the international application	<input type="checkbox"/>	Box No. VIII	Certain observations on the international application
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<input type="checkbox"/>	Box No. VII	Certain defects in the international application																							
<input type="checkbox"/>	Box No. VIII	Certain observations on the international application																							
4.	The International Bureau will communicate this report to designated Offices in accordance with Rules 44bis.3(c) and 93bis.1 but not, except where the applicant makes an express request under Article 23(2), before the expiration of 30 months from the priority date (Rule 44bis .2).																								

<p style="text-align: center;">The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland</p> <p>Facsimile No. +41 22 338 82 70</p>	<p>Date of issuance of this report 29 November 2006 (29.11.2006)</p> <p>Authorized officer Masashi Honda</p> <p>e-mail: pt08@wipo.int</p>
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PATENT COOPERATION TREATY

TRANSLATION

From the
INTERNATIONAL SEARCHING AUTHORITY

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

To:

Date of mailing
(day/month/year)

Applicant's or agent's file reference
P05217700

FOR FURTHER ACTION
See paragraph 2 below

International application No. PCT/JP2005/003490	International filing date (day/month/year) 02.03.2005	Priority date (day/month/year) 03.03.2004
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International Patent Classification (IPC) or both national classification and IPC

Applicant
SHINKO ELECTRIC INDUSTRIES CO., LTD.

1. This opinion contains indications relating to the following items:

<input checked="" type="checkbox"/>	Box No. I	Basis of the opinion
<input type="checkbox"/>	Box No. II	Priority
<input type="checkbox"/>	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
<input checked="" type="checkbox"/>	Box No. IV	Lack of unity of invention
<input checked="" type="checkbox"/>	Box No. V	Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
<input type="checkbox"/>	Box No. VI	Certain documents cited
<input type="checkbox"/>	Box No. VII	Certain defects in the international application
<input type="checkbox"/>	Box No. VIII	Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/IP	Authorized officer
Facsimile No.	Telephone No.

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/JP2005/003490

Box No. I

Basis of this opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
☐ This opinion has been established on the basis of a translation from the original language into the following language _____, which is the language of a translation furnished for the purposes of international search (under Rule 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material
☐ a sequence listing
☐ table(s) related to the sequence listing
 - b. format of material
☐ in written format
☐ in computer readable form
 - c. time of filing/furnishing
☐ contained in the international application as filed.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/JP2005/003490

Box No. IV Lack of unity of invention

1. ☐ In response to the invitation (Form PCT/ISA/206) to pay additional fees the applicant has:
- ☐ paid additional fees
 - ☐ paid additional fees under protest
 - ☒ not paid additional fees
2. ☐ This Authority found that the requirement of unity of invention is not complied with and chose not to invite the applicant to pay additional fees.
3. This Authority considers that the requirement of unity of invention in accordance with Rules 13.1, 13.2 and 13.3 is
- ☐ complied with
 - ☒ not complied with for the following reasons:

Claims 1-11 are the subject matters of a method for manufacturing a circuit board comprising the steps of (1) forming a first resin layer on the surface of an insulating substrate having a conductive layer on the surface, (2) forming a second resin layer on the first resin layer on the surface conductive layer, and (3) removing the first resin layer over a hole, and

claims 12-15 are the subject matters of a circuit board in which a through hole and/or non-through hole land is continuously formed in the state of concentric circles with respect to the hole, the highest height of the conductive layer in the non-connecting section of the land is set to - 5 μm or more, the thickness of the conductive layer in a circuit section or less by using the corner of the insulating substrate as a reference point, and the land width from the reference point is set to 0-40 μm , and they are not so linked as to form a common single general inventive concept.

Furthermore, the matter common to claims 1-11 is a method for manufacturing a circuit board comprising the steps of (1) forming a first resin layer on the surface of an insulating substrate having a conductive layer on the surface, (2) forming a second resin layer on the first resin layer on the surface conductive layer, and (3) removing the first resin layer over a hole.

However, as a result of a search, a method for manufacturing a circuit board comprising the steps of (1) forming a first resin layer on the surface of an insulating substrate having a conductive layer on the surface, (2) forming a second resin layer on the first resin layer on the surface conductive layer, and (3) removing the first resin layer over a hole, is considered to be disclosed in paragraphs [0022]-[0032] and Figs. 1-2 of document JP, 7-142841, A (Nippon Avionics Co., Ltd.), 02 June, 1995 (02.06.95), so it is evident that the method is not novel.

As a result, a method for manufacturing a circuit board comprising the steps of (1) forming a first resin layer on the surface of an insulating substrate having a conductive layer on the surface, (2) forming a second resin layer on the first resin layer on the surface conductive layer, and (3) removing the first resin layer over a hole, belongs to the prior art, so the common matter (a method for manufacturing a circuit board comprising the steps of (1) forming a first resin layer on the surface of an insulating substrate having a conductive layer on the surface, (2) forming a second resin layer on the first resin layer on the surface conductive layer, and (3) removing the first resin layer over a hole) is not considered to be a special technical feature in the sense of the second sentence of PCT Rule 13.2.

4. Consequently, this opinion has been established in respect of the following parts of the international application:
- ☐ all parts
 - ☒ the parts relating to claims Nos. 1, 9

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/JP2005/003490

Box No. V

**Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement**

1. Statement

Novelty (N)

Claims 9

YES

Claims 1

NO

Inventive step (IS)

Claims 9

YES

Claims 1

NO

Industrial applicability (IA)

Claims 1, 9

YES

Claims

NO

2. Citations and explanations:

Document 1: JP, 7-142841, A (Nippon Avionics Kabushiki Kaisha), 02 June, 1995 (02.06.95), paragraphs [0022]-[0033], Figs. 1-2

Document 2: JP, 2002-261424, A (Mitsubishi Paper Mills Ltd.), 13 September, 2002 (13.09.02), full text

Document 3: JP, 2002-124765, A (NEC Toyama, Ltd.), 26 April, 2002 (26.04.02), full text

The subject matter of claim 1 does not appear to be novel or to involve an inventive step, since it is described in paragraphs [0022]-[0033] and Figs. 1-2 of document 1 cited in the ISR.

The subject matter of claim 9 appears to be novel and to involve an inventive step in view of the documents cited in the ISR. Particularly, a constitution in which the surface of a first resin layer is uniformly charged to induce a potential difference between the first resin layer over a hole and the first resin layer on a surface conductive layer, and a second resin layer is formed on the surface conductive layer by using the potential difference, is not disclosed in any documents.

Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of:

IV.3.

Furthermore, a method for manufacturing a circuit board comprising the steps of (1) forming a first resin layer on the surface of an insulating substrate having a conductive layer on the surface and on the inner wall of a through hole, (2) forming a second resin layer insoluble or hardly soluble in a developer for the first resin layer, on the first resin layer on the surface conductive layer, and (3) removing the first resin layer over the hole by the developer for the first resin layer, is considered to be disclosed in paragraphs [0022]-[0032] and Figs. 1-2 of document JP, 7-142841, A (Nippon Avionics Kabushiki Kaisha), 02 June, 1995 (02.06.95), so it is evident that the method is not novel.

As a result, the subject matter of claim 1 belongs to the prior art, so a matter dependent on claim 1 is not considered to be a special technical feature in the sense of the second sentence of PCT Rule 13.2.